35. An isolated compound having the structure:

wherein each X^1 and X^2 is, independently, a hydroxyl group or a group capable of being hydrolyzed to a hydroxyl group at physiological pH:

wherein at least 96% of the bonds between the C and the B are in an L-configuration; wherein A' comprises an amino acid; and wherein the compound inhibits DPIV activity.

- 36. The compound of claim 35, wherein X^1 and X^2 are hydroxyl groups.
- 37. The compound of claim 35, wherein at least 97% of the bonds between the C and the B are in an L-configuration.
- 38. The compound of claim 35, wherein at least 98% of the bonds between the C and the B are in an L-configuration.
- 39. The compound of claim 35, wherein 99% of the bonds between the C and the B are in an L-configuration.
- 40. The compound of claim 35, wherein A' is valine.

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42. An isolated compound having the structure:

wherein each X^1 and X^2 is, independently, a hydroxyl group or a group capable of being hydrolyzed to a hydroxyl group at physiological pH:

wherein at least 96 % of the bonds between the C and the B are in an L-configuration: wherein X comprises an amino acid or a peptide; and wherein the compound inhibits DPIV activity.

- 43. The compound of claim 42, wherein X^1 and X^2 are hydroxyl groups.
- The compound of claim 42, wherein at least 97% of the bonds between the C and the B are in an L-configuration.
- 45. The compound of claim 42, wherein at least 98% of the bonds between the C and the B are in an L-configuration.
- 46. The compound of claim 42, wherein 99% of the bonds between the C and the B are in an L-configuration.
- 47. The compound of claim 42, wherein X is an L-amino acid.

48. The compound of claim 43, wherein X is a peptide having the structure

$$\left\{ \begin{array}{cccc} & H & O \\ & & \mid & \parallel \\ A-N & - & C-C & - \end{array} \right\}_{m} A' - \\ & CH_{2} & CH_{2} \\ & & \backslash & / \\ & CH_{2} \end{array}$$

wherein m is an integer between 0 and 10, inclusive; and

wherein A and A' are L-amino acid residues such that the A in each repeating bracketed unit can be the same or a different amino acid residue.

- 49. The compound of claim 48, wherein A and A' are independently proline or alanine residues.
- 50. The compound of claim 48, wherein m is an integer between 1 and 10.
- 51. The compound of claim 48, wherein m is 1.

In the Abstracts

Please delete the originally filed Abstract appearing on pages 30-33 of the application as filed and insert the following paragraph therefor:

Abstract

Peptide inhibitors of DP-IV are provided. The peptide inhibitors have an isomeric purity of about 96-99 percent. The peptide inhibitors include one or more amino acids covalently